SW397

CALDWELL
RICHARDS
SORENSEN
Answers to Infrastructure®

2028 West 500 North
P.O. Box 1485
Vernal, UT 84078
Phone: 435.781.2550
Fax: 435.781.2950
crsengineers.com
Division of
Solid and Hazardous Waste

February 13, 2015

FEB 23 2015

2015-003336

Doug Taylor
Utah Division of Solid and Hazardous Waste
PO Box 144880
Salt Lake City Utah 84114-4880

RE: Brennan Bottoms Disposal
Exploration and Production Landfill Application
Response to Permit Application Deficiencies Letter Dated December 29, 2014

Dear Mr. Taylor

All deficiencies from the above referenced letter have been addressed. The following is a summary of the actions taken to resolve each deficiency (in *italics*).

1. Documentation that the historical survey required by the Division of Oil Gas and Mining (DOGM) for the construction of the impoundments has been completed.

   CRS was unable to find documentation that a historical survey was completed as part of the original, or subsequent applications to DOGM. A request was sent to Christopher Merritt at the Utah Division of State History requesting an evaluation of the proposed landfill. No historically significant items were found within the project area. A letter to this effect was sent from the Division of State History directly to the Division of Solid and Hazardous Waste on February 12, 2015.

2. Documentation that no ecologically or scientifically areas or endangered species are present in the area in accordance with R315-302-1(2)(a)(ii) of the Utah Administrative Code or documentation that this information was submitted and approved by the Division of Oil Gas and Mining during the permitting of the impoundments.

   CRS was unable to find documentation that an ecological assessment was submitted as part of the evaporation pond permits through DOGM. As a result, a new ecological assessment was performed by SWCA Environmental Consultants and is attached to this letter.

3. A reasonable ground water depth interpolated to the facility from the logs to the adjacent oil and gas wells, including language in the groundwater sections it relates to the bottom elevation of the proposed landfill.

   CRS was unable to locate information regarding groundwater elevation in the DOGM documents for the Crescent Point Engergy well #43-047-39079 located directly adjacent to the site. In the original application to DOGM for the disposal facility, two wells near the site (Gose Govt. 1 well # 43-047-20171 and Newfield's well #43-047-31588) are listed as not encountering any ground water. This information

along with the numerous wells drilled on site to a depth of 50 feet without encountering any ground water would indicate that ground water depth is well below 50 feet deep. The depth of the proposed landfill is 12 feet resulting in at least 38 feet of separation between the bottom of the landfill and the bottom of the test wells drilled on site.

4. Cost estimates for closure and post-closure in accordance with R315-309 of the Utah Administrative Code as follows:

    a. Closure Cost Estimates. Closure cost estimates should be based on a third party performing closure at the most expensive point of the landfill operation in accordance with the closure plan.

    b. Post-Closure Cost Estimates. Post-closure cost estimates should be based on the most expensive cost of completing the post-closure care reasonably expected during the post-closure care period.

    A revised closures cost estimate was e-mailed to David Mccleary on December 22, 2014. A copy of the revised estimates are attached to this letter.

5. A financial assurance mechanism, as identified in R315-309 of the Utah Administrative Code, is required for Pond 4 prior to acceptance of any waste. The mechanism and all applicable documentation for the selected mechanism should be submitted for approval.

    Information regarding the certificate of deposit was sent to the Division of Solid and Hazardous Waste in January of 2015.

If you have any questions, or we can provide further information, please don't hesitate to contact Clint Allen, Project Engineer, at (435) 781-2550. We look forward to your response.

Sincerely,

Clinton J. Allen, P.E.
CRS Engineers

Inclusion: Closure Cost Calculations
Post Closure Cost Calculations
Brennan Bottoms Disposal Facility Ecological Assessment

Cc: Project File 14120V Brennan Bottoms

12/22/2014

Brennan Bottoms Landfill — Proj. Num. 14120V
Closure Cost Calculations

Land Fill Area		14,000	sq. ft.
		1556	sq. yds.
1.5' Compacted Native Cover Volume		778	cu. Yds.
Unit Cost	$	25.00	per cu. Yd.
Total Cost	**$**	**19,444**	
6" Native Topsoil and Reseeding		259	cu. Yds.
Unit Cost	$	3.50	per cu. Yd.
Total Cost	**$**	**907**	
Stormwater Polution Prevention Maintenance		**$6,000**	lump
Total Closure Costs		**$26,352**	

12/22/2014

Brennan Bottoms Landfill Proj. Num. 14120V

Post Closure Cost Calculations

Post Closure Inspections		2	inspections per year
		2.5	hours per inspection
		5	hours per year
		$35	per hour
		$175	Per year
		$875	for inpsections for 5 years
Re-seeding (if necessary)		1,556	sq. yds.
	$	0.33	per sq. yard
	$	**513.33**	estimate 2 years to establish vegetation
Total Post Closure Costs	**$**	**1,388.33**	

SWCA®
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.

Vernal Office
2028 West 500 North
Vernal, UT 84078
Tel 435.789.9388 Fax 435.789.9385
www.swca.com

To: Clint Allen (Caldwell Richards Sorensen)

From: Jared Bigler (SWCA Environmental Consultants)

Date: February 12, 2015

Re: Brennan Bottoms Disposal Facility Ecological Assessment

BACKGROUND

Brennan Bottoms Disposal, LLC (BBD) is seeking a permit for a BBDF Class IIIb E and P landfill from the Utah Division of Solid and Hazardous Waste. It is our understanding that BBD is proposing to drain an existing approximately 5-acre produced water disposal pond (referred to hereafter as the project area) to use as a landfill for disposing of drilling mud. All construction activities associated with this change in use are expected to remain within the existing pond and no new surface disturbance or ancillary actions are proposed. The project area is located in the SW, SW quarter quarter of section 19, Township 6 south, Range 21 east; Uintah County, Utah (Attachment A). To comply with State of Utah environmental regulations, SWCA Environmental Consultants (SWCA) completed a desktop ecological assessment of the project area to determine the presence/absence of "ecologically or scientifically significant areas or endangered species in the area," in accordance with R315-302-1(2)(a)(ii) of the Utah Administrative Code.

The approximately 25-acre study area identified for this assessment is the project area plus a 300-foot buffer. This ecological assessment was a desktop analysis to evaluate the potential for sensitive natural resources to occur in the vicinity of the project area. No field work was conducted as part of this assessment.

METHODS

The following geographic information system (GIS)-based data were reviewed for the area surrounding the project area:

- Southwest Regional Gap Analysis Project (SWReGAP) data
- Soil survey data
- National Hydrography Dataset (NHD)
- National Wetland Inventory (NWI)
- Bureau of Land Management (BLM) Vernal Field Office (VFO) Raptor Nest Data
- The Utah Natural Heritage Program Geographic Database
- Utah Division of Wildlife Resources (UDWR) Wildlife Habitat Data
- US Fish and Wildlife Service (USFWS) Rare Plant Potential Habitat Polygons

A Utah Division of Wildlife Resources (UDWR) Information Request was submitted. In response, a letter was received from the UDWR listing all sensitive species recently observed within 2 miles of the project area (Attachment D).

An evaluation of the potential to occur in the study area was then conducted using all of the above data for all federal and state threatened, endangered, and candidate-for-listing species, as well as BLM Sensitive Plants and state wildlife species of concern (special-status species) known to occur in Uintah County.

FINDINGS

Table 1. Description of Study Area

Underlying Geology	Brennan Basin member of the Duchesne River Formation, Mixed alluvium and colluvium
Elevation Range Above Mean Sea Level (amsl)	4,721–4,744 feet
Topography	Study area occurs in a wide generally east-flowing drainage with steep buttes at the northern and southern extents.
Soil Types Present (SSURGO)	Badland-Rock outcrop complex, 1 to 100 percent slopes, Hideout-Badland-Rock outcrop complex, 2 to 8 percent slopes, Shotnick sandy loam, 2 to 4 percent slopes, Turzo loam, 0 to 4 percent slopes
Vegetation Communities Present (SWReGAP)	Colorado Plateau Mixed Canyon and Tableland, Inter-Mountain Basins Mixed Salt Desert Scrub, Inter-Mountain Basins Semi-Desert Shrub Steppe, Invasive Annual Grassland

Notes: SSURGO = Soil Survey Geographic Database; SWReGAP = Southwest Regional Gap Analysis Project

- A search of the NHD revealed that an intermittent stream flows through the study area from west to east (Attachment A). Considering that there are no proposed disturbance activities outside the existing evaporation pond, the proposed project is not expected to impact this stream or require any additional permitting.
- A search of the NWI revealed that no designated wetlands occur within the study area.
- An evaluation of all special-status plant and wildlife species known to occur in Uintah County was conducted (Attachments B and C). The only federally listed species with potential to occur in the study area is greater sage-grouse (*Centrocercus urophasianus*), which is a federal candidate for listing. Several BLM Sensitive plant species, and state listed Wildlife Species of Concern and Partners in Flight bird species have potential to occur in the study area. The proposed project is not expected to impact these species beyond the ongoing disturbance as a result of the operation of the existing disposal facility.
- A search of the BLM VFO Raptor Nest Data revealed that a golden eagle (*Aquila chrysaetos*) nest was previously observed 0.2 mile from the study area (Attachment A). Since a field survey was not completed, it is not known if this nest is currently active or is even still present. The proposed change in use of this pond is not expected to have an increased impact on nesting activities for this species beyond the ongoing disturbance created by the operation of the existing disposal facility.

- A search of available UDWR wildlife habitat data revealed that the study area is within greater sage-grouse (*Centrocercus urophasianus*) (a federal candidate for listing) brooding habitat and is within year-long, substantial pronghorn habitat. The proposed project is not expected to have an increased impact on these wildlife species beyond the ongoing disturbance created by the operation of the existing disposal facility.
- A search of the USFWS Rare Plant Potential Habitat Polygons revealed that the study area is within the potential habitat polygons for horseshoe milkvetch (*Astragalus equisolensis*) and Hamilton's milkvetch (*Astragalus hamiltonii*). Both of these plants are on the BLM Sensitive Plant Species List. (BLM 2011). There are no known occurrences of these plants within the study area. Considering that there are no proposed disturbance activities outside the existing evaporation pond, the proposed project is not expected to impact potential habitat for these plant species.
- A UDWR Information Request revealed that there are recent records of occurrence for ferruginous hawk, white-tailed prairie-dog, yellow-billed cuckoo and 4 fish species known to occur in the Green River within 2 miles of the project area (Attachment D). The study area could provide suitable habitat for the ferruginous hawk and white-tailed prairie dog. However, the proposed project is not expected to have an increased impact on these wildlife species beyond the ongoing disturbance created by the operation of the existing disposal facility. Suitable dense riparian habitat for yellow-billed cuckoo and open water for the 4 Green River fish species does not exist in the study area.

CONCLUSION

Considering no new surface disturbance, construction activities or any other ancillary actions are proposed as part of this project, no ecologically or scientifically significant areas or endangered species are expected to be impacted by this project.

LITERATURE CITED

Bureau of Land Management. 2012. Sensitive Plant Species List for Utah. February 2, 2012. On file at SWCA Environmental Consultants, Vernal, Utah.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey (WSS). Available at: http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm.

United States Fish and Wildlife Service. 2013. Species by County Report. Available at: http://ecos.fws.gov/tess_public/countySearch!speciesByCountyReport.action?fips=49047.

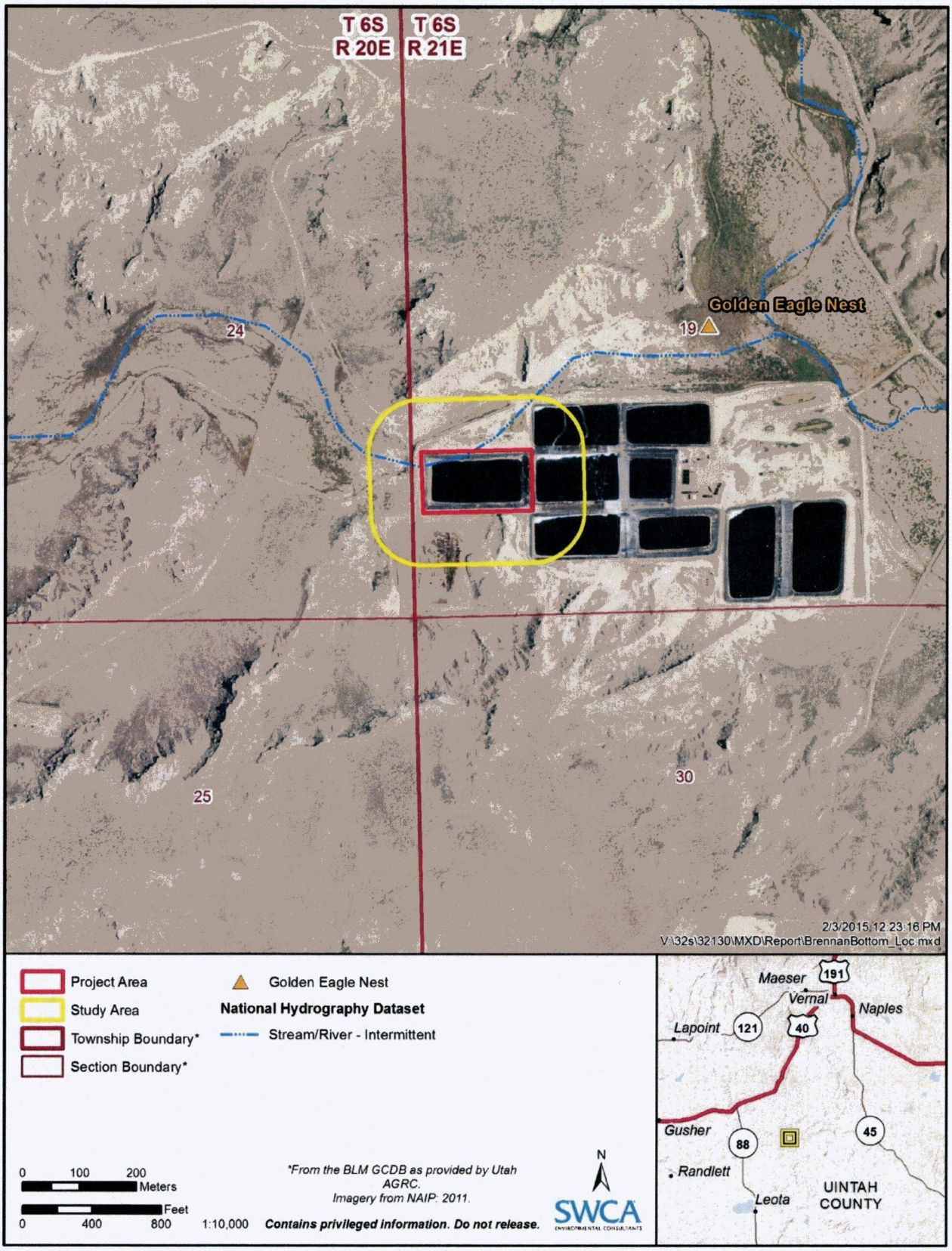
United States Geological Survey National Gap Analysis Program. 2004. Southwest Regional Gap Analysis Project Field Sample Database (SWReGAP). Version 1.1. RS/GIS Laboratory, College of Natural Resources, Utah State University, Logan.

Utah Geological Survey Vernal and Price Geologic Maps. Available at: http://geology.utah.gov/maps/gis/index.htm. Accessed February 2015.

———. 2011. Utah's State Listed Species by County. Available at: http://dwrcdc.nr.utah.gov/ucdc/ViewReports/sscounty.pdf. Accessed February 2015.

Attachment A.

Map of Study Area



Attachment A. Map of the Brennan Bottoms Disposal Facility showing the proposed project area and the study area.

Attachment B.

Special-Status Plant Species Table

Special-Status Plant Species in Uintah County, Utah

Species Name/ Common Name	Status*	Location/Habitat† (county—location; geologic stratum; plant community; elevation range)	Potential for Occurrence in the Survey Area‡
Arabis vivariensis Park rock cress	S	Uintah—Diamond Mountain, Diamond Gulch; Weber Formation sandstone and limestone; MDS or PJ; 5,000–6,000 amsl.	None. Formation and associated soils do not exist in the study area.
Astragalus equisolensis Horseshoe milkvetch	S	Uintah—Green River Horseshoe Bend; Duchesne River Formation sand and silty sand; MDS; 4,790–5,185 feet amsl.	Moderate. Formation and associated soils present in the study area. Study area is inside USFWS potential habitat polygon.
Astragalus hamiltonii Hamilton milkvetch	S	Uintah—Asphalt Ridge; Mowry, Dakota and Wasatch formations, Lapoint and Dry Gulch members, Duchesne Formation; MDS or PJ; 5,240–5,800 feet amsl.	Moderate. Formation and associated soils present in the study area. Study area is inside USFWS potential habitat polygon.
Cleomellapalmeriana var. *goodrichii* Goodrich's cleomella	S	Uintah—Diamond Mountain; Morrison, Mancos, Tropic formations, heavy clay and shale slopes; SDS; 4,000–6,000 feet amsl.	None. Study area out of range for this species.
Cryptantha barnebyi Oilshale catseye	S	Uintah—south and southeast of Bonanza; Evacuation Creek, lower Parachute members, shale slopes, semi-barren; MDS or PJ; 4,600–6,000 feet amsl.	None. Study area out of range for this species.
Cryptantha grahamii Graham's catseye	S	Uintah—Green River Formation; shale slopes, semi-barren; MDS or PJ; elevation range unknown.	None. Study area out of range for this species.
Erigeron untermannii Untermann fleabane	S	Duchesne, Uintah—West Tavaputs Plateau Green River; Uinta Formation, ridges, dry calcareous shales and sandstones; PJ or MB; 7,000–7,800 feet amsl.	None. Formation and associated soils do not exist in the study area. No known occurrences in the vicinity of the study area.
Frasera ackermaniae Ackerman's frasera	S	Uintah—Chinle Formation; recently described species; elevation range unknown.	None. Formation does not exist in the study area.
Hymenoxys lapidicola Rock bitterweed	S	Uintah—Blue Mountain, Cliff Ridge; Weber Formation, sandy ledges and crevices; PJ or ponderosa-manzanita; 5,700–8,100 feet amsl.	None. Formation and associated soils do not exist in the study area.
Lepidium huberi Huber pepperplant	S	Uintah—foothills, Ashley Creek, Dry Fork; Chinle, Park City, Weber Formation, eroding cliffs, alluvium, sandy or shaley bluffs; black sage or MB; 5,000–6,400 feet amsl.	None. Formation and associated soils do not exist in the study area.
Penstemon goodrichii Goodrich beardtongue	S	Duchesne, Uintah—Lapoint, Tridell, Whiterocks; Duchesne River Formation; clay badlands; MDS, shadscale saltbush, PJ, or MB; 5,590–6,215 feet amsl.	None. Study area out of range for this species.
Penstemon grahamii Graham beardtongue	S	Uintah, Duchesne—oil shale outcrops throughout BLM Vernal Field Office area; Evacuation Creek, lower Parachute members, oil shale or white shale knolls and talus; semi-barren MDS or PJ; 4,600–6,700 feet amsl.	None. Study area out of range for this species.
Penstemon scariosus var. *albifluvis* White River beardtongue	S	Uintah—south and southeast of Bonanza; Evacuation Creek, lower Parachute members, shale slopes; semi-barren MDS or PJ; 4,600–6,000 feet amsl.	None. Study area is out of range for this species.
Schoenocrambe argillacea Clay reed-mustard	T	Uintah—canyon rims and steep slopes; contact zone, Uinta–Green River formations; MDS; 5,000–5,650 feet amsl.	None. Formation does not exist in the study area. Study area out of range for this species.
Schoenocrambe suffrutescens Shrubby reed-mustard	E	Duchesne, Uintah—Big Pack Mountain, Wrinkles Road, Hill Creek Basin; Green River Formation, calcareous shale; MDS, PJS, or MB; 5,400–6,000 feet amsl.	None. Formation and associated soils do not exist in the study area. Study area out of range for this species.

Special-Status Plant Species in Uintah County, Utah

Species Name/ Common Name	Status*	Location/Habitat† (county—location; geologic stratum; plant community; elevation range)	Potential for Occurrence in the Survey Area‡
Sclerocactus brevispinus Pariette cactus	T	Duchesne, Uintah—Pariette Wash south of Myton; Uinta Formation, Wagonhound Member, alkaline clay; shadscale saltbush, mat-saltbush, greasewood community; 4,700–5,400 feet amsl.	None. Study area out of range for this species.
Sclerocactus wetlandicus Uinta Basin hookless cactus	T	Duchesne, Uintah—widespread in BLM Vernal Field Office area; alluvial benches Ouray to Carbon County line; MDS; 4,700–6,000 feet amsl.	None. No known occurrences in the vicinity of the study area.
Spiranthes diluvialis Ute ladies'-tresses	T	Daggett, Duchesne, Uintah—unconsolidated alluvium; riparian corridors, wetlands, wet meadows; 4,400–6,810 feet amsl.	None. Riparian/wetland habitat absent in the survey area.
Yucca sterilis Sterile yucca	S	Duchesne, Uintah—sandy soils near the Green River and Pariette wetlands; range unknown.	Low. No known occurrences in the vicinity of the study area.

Notes:

* Status: C = federal candidate; E = federally endangered; S = BLM sensitive; T = federally threatened; 0 = Non-status, removed from status or potential status.

† Habitat: MB = montane brush; MDS = mixed desert shrub; PJ = pinyon-juniper; PJS = pinyon-juniper-sagebrush; SDS = salt desert scrub.

‡ Occurrence: None = suitable and/or potential habitat for this species is unknown in survey area; Low = some suitable and/or potential habitat for this species, but populations unknown near survey area; Moderate = substantial suitable and/or potential habitat for this species or known populations near, but unknown in survey area; High = suitable and/or potential habitat present and populations known in study area or immediate proximity.

Attachment C.

Special-status Wildlife Species Table

Special-Status Wildlife Species in Uintah County, Utah

Common Name; *Scientific Name*	Status	Habitat Association	Potential for Occurrence in the Study Area‡
Birds			
American white pelican *Pelecanus erythrorhynchos*	WSC; PIF	Inhabits areas of open water, including large rivers, lakes, ponds, and reservoirs, with surrounding habitats ranging from barren to heavily vegetated sites. Typically nests on isolated islands in lakes or reservoirs; rarely nests on peninsulas.	None. In Utah, the species nests on islands associated with Great Salt Lake and Utah Lake. In northeastern Utah, the species is present as a transient on larger water bodies.
Bald eagle *Haliaeetus leucocephalus*	WSC	In Utah, breeding occurrences are limited to five locations within four counties (Carbon, Daggett, Grand, and Salt Lake Counties). Winter habitat typically includes areas of open water, adequate food sources, and sufficient diurnal perches and night roosts.	Low. Bald eagles may be seen foraging along the Green River near the study area during the winter months, usually from early November through March.
Black-chinned hummingbird *Archilochus alexandri*	PIF	Inhabits dry lowlands and foothills with pinyon-juniper woodlands.	None. Pinyon-juniper woodlands do not exist in the study area.
Bobolink *Dolichonyx oryzivorus*	WSC; PIF	Inhabits mesic and irrigated meadows, riparian woodlands, and subalpine marshes at lower elevations (2,800–5,500 feet). Suitable breeding habitat for this ground nester includes tall grass, flooded meadows, prairies, and agricultural fields; forbs and perch sites also are required.	None. The species breeds in isolated areas of Utah, primarily in the northern half of the state. Suitable nesting habitat does not exist in the study area.
Brewer's sparrow *Spizella breweri*	PIF	Inhabits desert, shrubland/chaparral environments.	Moderate. Shrubland areas of the study area are suitable nesting habitat for Brewer's Sparrow.
Broad-tailed hummingbird *Selasphorus platycercus*	PIF	Inhabits open woodlands, especially pinyon-juniper, pine-oak, and conifer-aspen association; brushy hillsides; montane scrub and thickets.	None. Suitable habitat does not exist in study area.
Burrowing owl *Athene cunicularia*	WSC	Inhabits desert, semidesert shrubland, grasslands, and agricultural areas. Nesting habitat primarily consists of flat, dry, and relatively open terrain; short vegetation; and abandoned mammal burrows for nesting and shelter. In northeastern Utah, burrowing owls nest in desert/grassland habitats and are found in close association with prairie dog colonies.	Moderate. Annual grassland and shrubland habitats in the study area provide potential nesting habitat for this species.
Cassin's finch *Carpodacus cassinii*	PIF	Inhabits open coniferous forest; in migration and winter also in deciduous woodland, second growth, scrub, brushy areas, and partly open situations with scattered trees.	Low. Shrubland areas of the study area could provide marginal habitat.
Cassin's kingbird *Tyrannus vociferans*	PIF	Inhabits sparse woods and dry scrub.	Low. Shrubland areas of the study area could provide marginal habitat.
Clark's nutcracker *Nucifraga columbiana*	PIF	Inhabits open coniferous forest, forest edge and clearings, primarily in mountains, but wandering into various habitats; in winter also in lowlands.	None. Suitable habitat does not exist in study area.
Ferruginous hawk *Buteo regalis*	WSC; PIF	Resides mainly in lowland open desert terrain characterized by barren cliffs and bluffs, pinyon-juniper woodlands, sagebrush-rabbitbrush, and cold desert shrub. Nesting habitat includes promontory points and rocky outcrops.	Low. This species is present in the West Desert and the Uinta Basin as a summer resident and a common migrant.
Grasshopper sparrow *Ammodramus savannarum*	PIF	Prefers grasslands of intermediate height and is often associated with clumped vegetation interspersed with patches of bare ground. Other habitat requirements include moderately deep litter and sparse coverage of woody vegetation.	Moderate. Annual grassland areas in the study area provide habitat for this species.
Gray flycatcher *Empidonax wrightii*	PIF	Inhabits arid areas of sagebrush or pinyon-juniper woodlands.	Low. Shrubland areas in the study area provide marginal habitat for this species.
Gray vireo *Vireo vicinior*	PIF	Inhabits dry shrubby areas, chaparral, and sparse woodlands.	Low. Shrubland areas in the study area provide habitat for this species.

Special-Status Wildlife Species in Uintah County, Utah

Common Name; *Scientific Name*	Status	Habitat Association	Potential for Occurrence in the Study Area‡
Greater sage-grouse *Centrocercus urophasianus*	FC; CAS; PIF	Inhabits upland sagebrush habitat in rolling hills and benches. Breeding occurs on open leks (strutting grounds), and nesting and brooding occur in upland areas and meadows in proximity to water, generally within a 1-mile radius of the lek. During winter, sagebrush habitats at submontane elevations are commonly used.	Moderate. This species is widespread but declining, with extant populations in Uintah and Daggett Counties. Study area lacks suitable dense sage brush for nesting.
Green-tailed towhee *Pipilo chlorurus*	PIF	Habitat is usually low shrubs, sometimes interspersed with trees; avoids typical forest other than open pinyon-juniper woodlands. In pinyon-juniper, associated with sagebrush-dominated openings with high shrub species richness.	Low. Study area lacks trees. Marginal shrub habitat is available in the study area.
Juniper titmouse *Baeolophus ridgwayi*	PIF	Inhabits sparse pinyon-juniper and oak woodlands.	None. Pinyon-juniper woodlands do not exist in the study area.
Lewis' woodpecker *Melanerpes lewis*	WSC; PIF	Inhabits open habitats, including pine forests, riparian areas, and pinyon-juniper woodlands. Breeding habitat typically includes ponderosa pines and cottonwoods in stream bottoms and farm areas. The species inhabits agricultural lands and urban parks, montane and desert riparian woodlands, and submontane shrub habitats.	None. Suitable woodland habitat does not exist in the study area.
Long-billed curlew *Numenius americanus*	WSC; PIF	Inhabits shortgrass prairies, alpine meadows, riparian woodlands, and reservoir habitats. Breeding habitat includes upland areas of shortgrass prairie or grassy meadows with bare ground components, usually near water.	None. Habitat is not available in the study area. Species is a widespread migrant in Utah. Potential nesting has been reported in Uintah County, but has not been confirmed.
Mexican spotted owl *Strix occidentalis lucida*	FT; PIF	Found primarily in canyons with mixed conifer forests, pine-oak woodlands, and riparian areas; nests on platforms and large cavities in trees, as well as on ledges and in caves. Breeding and nesting season is approximately March through August.	None. The study area is not located within known potential or occupied habitat.
Mountain bluebird *Sialia currucoides*	PIF	Inhabits subalpine meadows, grasslands, shrub-steppe, savanna, and pinyon-juniper woodland; in south, usually at elevations above 4,920 feet. In winter and during migration, inhabits desert, brushy areas, and agricultural lands.	Moderate. Annual grassland and shrubland habitats in the study area provide suitable habitat for this species.
Mountain plover *Charadrius montanus*	FPR; WSC; PIF	Breed in shrub-steppe habitat where vegetation is sparse and dominated by *Artemisia* spp., with components of black sage and grasses. Nest locations also vary with respect to topography (nests have been observed on flat, open ground; on the top or at the base of slopes; or very close to large rocky outcroppings).	Low. Habitat is available in the study area. The only breeding population of mountain plover in Utah is located on Myton Bench and is not near the study area.
Northern goshawk *Accipiter gentilis*	CAS	Inhabits a variety of forest types, including deciduous, coniferous, and mixed forests. Typically found in mature or old-growth forests, and generally selects larger tracts of forest over smaller tracts. In the western United States, it characteristically nests in coniferous forests, including those dominated by ponderosa pine and lodgepole, or in mixed forests dominated by various coniferous species, including Douglas-fir, cedar, hemlock, spruce, and larch. Western birds also nest in deciduous forests dominated by aspen, paper birch, or willow.	None. Habitat is not available in the study area.
Pinyon jay *Gymnorhinus cyanocephalus*	PIF	Inhabits semiarid foothills with pinyon-juniper woodlands.	None. Pinyon-juniper woodlands do not exist in the study area.
Prairie falcon *Falco mexicanus*	PIF	Inhabits alpine, cliff, cropland/hedgerow, desert, and grassland/herbaceous environments.	Low. Annual grassland and shrubland habitats in the study area provide suitable foraging habitat for this species. Suitable cliff nesting habitat does not exists in the study area.
Sage sparrow *Amphispiza belli*	PIF	Inhabits dry sagebrush/scrublands with sparse vegetation.	Moderate. Shrubland areas of the study area provide suitable nesting habitat.

Special-Status Wildlife Species in Uintah County, Utah

Common Name; *Scientific Name*	Status	Habitat Association	Potential for Occurrence in the Study Area‡
Sage thrasher *Oreoscoptes montanus*	PIF	Inhabits desert, shrubland/chaparral environments.	Moderate. Shrubland areas of the study area provide suitable n habitat.
Short-eared owl *Asio flammeus*	WSC	Inhabits arid grasslands, agricultural areas, marshes, and occasionally open woodlands. In Utah, cold desert shrub and sagebrush-rabbitbrush habitats are also used. Typically a ground nester.	Moderate. This species breeds in northern Utah and is present as a migrant potentially throughout the state. Present in Uintah County.
Southwestern willow flycatcher *Empidonax traillii extimus*	FE	Inhabits thickets, scrubby and brushy areas, open second growth, swamps, and open woodland. Nests primarily in swampy thickets, especially of willow and sometimes of buttonbush, tamarisk, vines, or other plants, where vegetation is 13–23 feet or more in height. Tamarisk is commonly used in the eastern part of its range.	None. Habitat is not available in the study area and study area is outside the normal range for this species.
Swainson's hawk *Buteo swainsoni*	PIF	Commonly found in savanna, open pine-oak woodland, and cultivated lands, and certain grain and row croplands with scattered trees. Tolerates extensive cultivation in nesting area, though vineyards, orchards, rice, corn, and cotton are not suitable foraging habitat. During migration and winter, also present in grasslands and other open country. Typically nests in solitary trees, bushes, or small groves; many nest in old black-billed magpie nests, and sometimes on rock ledges. Also readily nests in trees in shelterbelts and similar structures produced by humans.	Low. Suitable foraging habitat is present in the study area.
Three-toed woodpecker *Picoides tridactylus*	WSC; PIF	Prefers coniferous forest, primarily spruce and balsam fir. Inhabits areas where dead timber remains after fires or logging. It is found less frequently in mixed forest, and occasionally in willow thickets along streams. Also found in high-elevation aspen groves, bogs, and swamps.	None. Habitat is not available in the study area.
Virginia's warbler *Vermivora virginiae*	PIF	Inhabits dry woodlands, scrub oak brushlands, canyons, and ravines.	None. Habitat is not available in the study area.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC; PIF	Present in riparian obligate and can be present in large tracts of cottonwood/willow habitats. However, this species has also been documented in lowland deciduous woodlands, alder thickets, deserted farmlands, and orchards. Breeding season is late June through July.	None. No riparian habitat exists in the study area.
White-throated swift *Aeronautes saxatalis*	PIF	Inhabits cliffs and canyons with deep rock crevices.	Low. Minimal cliffs and rock crevices present in the study area could provide marginal nesting habitat.
Wilson's phalarope *Phalaropus tricolor*	PIF	Inhabits grassland/herbaceous riparian, wetland environments.	None. Habitat is not available in the study area.
Fish			
Bluehead sucker *Catostomus discobolus*	CAS	Occupies a wide range of aquatic habitats ranging from cold, clear mountain streams to warm, turbid rivers.	None. Suitable aquatic habitat does not exist in the study area.
Bonytail chub *Gila elegans*	FE	Critical habitat has been designated within the bonytail chub's historical ranges in the following sections of the upper Colorado River basin within the Vernal Field Office (VFO) (59 *Federal Register* 13374): Utah and Uintah Counties in Utah; Colorado and Moffat Counties in Colorado. The Green River from the confluence with the Yampa River in Section 28 of Township 7 North, Range 103 West (6th Principal Meridian) to the southern boundary of Dinosaur National Monument in Section 30 of Township 6 North, Range 24 East (Salt Lake Meridian). Utah, Uintah, and Grand Counties in Utah. The Green River (Desolation and Gray Canyons) from Sumner's Amphitheater in Section 5 of Township 12 South, Range 18 East (Salt Lake Meridian) to Swasey's Rapid (river mile 12) in Section 3 of Township 20 South, Range 16 East (Salt Lake Meridian).	None. Suitable aquatic habitat does not exist in the study area.

Special-Status Wildlife Species in Uintah County, Utah

Common Name; *Scientific Name*	Status	Habitat Association	Potential for Occurrence in the Study Area‡
Colorado river cutthroat trout *Oncorhynchus clarkii pleuriticus*	CAS	Requires cool, clear water and well-vegetated stream banks for cover and bank stability; in-stream cover in the form of deep pools and boulders and logs is also important; adapted to relatively cold water, thrives at high elevations. Most remaining populations are fluvial or resident. Also present in lakes.	None. Suitable aquatic habitat does not exist in the study area.
Colorado pikeminnow *Ptychocheilus lucius*	FE	Critical habitat has been designated within the 100-year floodplain of the Colorado pikeminnow's historical range in the following sections of the upper Colorado River basin within the VFO (59 *Federal Register* 13374): Utah, Uintah, Carbon, Grand, Emery, Wayne, and San Juan Counties in Utah; Colorado and Moffat Counties in Colorado. The Green River and its 100-year floodplain from the confluence with the Yampa River in Section 28, Township 7 North, Range 103 West (6th Principal Meridian) to the confluence with the Colorado River in Section 28, Township 30 South, Range 19 East (Salt Lake Meridian). Colorado and Rio Blanco Counties in Colorado; and Utah and Uintah Counties in Utah. The White River and its 100-year floodplain from Rio Blanco Lake Dam in Section 6, Township 1 North, Range 96 West (6th Principal Meridian) to the confluence with the Green River in Section 4, Township 9 South, Range 20 East (Salt Lake Meridian).	None. Suitable aquatic habitat does not exist in the study area.
Flannelmouth sucker *Catostomus latipinnis*	CAS	Adults can be present in riffles, runs, and pools in streams and large rivers, with the highest densities usually in pool habitats. Young live in slow to moderately swift waters near the shoreline areas.	None. Suitable aquatic habitat does not exist in the study area.
Humpback chub *Gila cypha*	FE	Critical habitat has been designated within the humpback chub's historical ranges in the following sections of the Colorado River Upper Basin within the VFO (59 *Federal Register* 13374): Utah and Uintah Counties in Utah; Colorado and Moffat Counties in Colorado. The Green River from the confluence with the Yampa River in Section 28, Township 7 North, Range 103 West (6th Principal Meridian) to the southern boundary of Dinosaur National Monument in Section 30, Township 6 North, Range 24 East (Salt Lake Meridian). Utah, Uintah, and Grand Counties in Utah. The Green River (Desolation and Gray Canyons) from Sumner's Amphitheater in Section 4, Township 12 South, Range 18 East (Salt Lake Meridian) to Swasey's Rapid (river mile 12) in Section 3, Township 20 South, Range 16 East (Salt Lake Meridian).	None. Suitable aquatic habitat does not exist in the study area.

Special-Status Wildlife Species in Uintah County, Utah

Common Name; *Scientific Name*	Status	Habitat Association	Potential for Occurrence in the Study Area‡
Razorback sucker *Xyrauchen texanus*	FE	Critical habitat has been designated within the 100-year floodplain of the razorback sucker's historical range in the following sections of the Colorado River Upper Basin within the VFO (59 *Federal Register* 13374): Utah and Uintah Counties in Utah; Colorado and Moffat Counties in Colorado. The Green River and its 100-year floodplain from the confluence with the Yampa River in Section 28, Township 7 North, Range 103 West (6th Principal Meridian) to Sand Wash in Section 20, Township 11 South, Range 18 East (6th Principal Meridian). Utah, Uintah, Carbon, Grand, Emery, Wayne, and San Juan Counties in Utah. The Green River and its 100-year floodplain from Sand Wash at river mile 96 at Section 20, Township 11 South, Range 18 East (6th Principal Meridian) to the confluence with the Colorado River in Section 7, Township 30 South, Range 19 East (6th Principal Meridian). Utah and Uintah Counties. The White River and its 100-year floodplain from the boundary of the Uintah and Ouray Indian Reservation at river mile 18 in Section 21, Township 9 South, Range 22 East (Salt Lake Meridian) to the confluence with the Green River in Section 4, Township 9 South, Range 20 East (Salt Lake Meridian). Utah and Uintah Counties. The Duchesne River and its 100-year floodplain from river mile 2.5 in Section 30, Township 4 South, Range 3 East (Salt Lake Meridian) to the confluence with the Green River in Section 5, Township 5 South, Range 3 East (Uintah Meridian).	None. Suitable aquatic habitat does not exist in the study area.
Roundtail chub *Gila robusta*	CAS	Adults inhabit low- to high-flow areas in the Green River; young are present in shallow areas with minimal flow.	None. Suitable aquatic habitat does not exist in the study area.
Mammals			
Big free-tailed bat *Nyctinomops macrotis*	WSC	Inhabits rocky areas in rugged country. Has been observed in lowlands of river floodplain-arroyo association, and also in shrub desert and woodland habitats. Roosts in rock crevices (vertical or horizontal) in cliffs and also in buildings, caves, and occasionally tree holes. Winter habits unknown.	Low. The species is rare in Utah. Individuals may be present in northern Utah occasionally.
Black-footed ferret *Mustela nigripes*	FE	Found in semiarid grasslands and mountain basins. It is found primarily in association with active prairie dog colonies that contain suitable burrow densities and colonies of sufficient size.	None. The distribution of this species is limited to a nonessential experimental population reintroduced into Coyote Basin, Uintah County, since 1998.
Canada lynx *Lynx canadensis*	FT	Primarily present in Douglas-fir, spruce fir, and subalpine forests at elevations above 7,800 feet. The lynx uses large, woody debris, such as downed logs and windfalls.	None. If extant in Utah, this species is most likely present in montane forests.
Fringed myotis *Myotis thysanodes*	WSC	The species is widely distributed throughout Utah, but is not very common in the state. It inhabits caves, mines, and buildings, most often in desert and woodland areas.	Low. The species is widely distributed but uncommon throughout Utah.
Kit fox *Vulpes macrotis*	WSC	Inhabits open prairie, plains, and other desert habitats, primarily in the western portion of the state.	Low. The species is widely distributed in the western portion of Utah, but rare in Uintah County.
Spotted bat *Euderma maculatum*	WSC	Inhabits desert shrub, sagebrush-rabbitbrush, pinyon-juniper woodland, and ponderosa pine and montane forest habitats. It uses lowland riparian and montane grassland habitats. Suitable cliff habitat appears to be necessary for roosts/hibernacula. Spotted bats typically do not migrate and instead use hibernacula to maintain a constant temperature above freezing from September through May.	Low. The species is potentially present throughout Utah; however, no occurrence records exist for the extreme northern or western parts of the state. Known presence has been reported in northeastern Uintah County.

Special-Status Wildlife Species in Uintah County, Utah

Common Name; *Scientific Name*	Status	Habitat Association	Potential for Occurrence in the Study Area‡
Townsend's big-eared bat *Corynorhinus townsendii*	WSC	Inhabits a wide range of habitats from semidesert shrublands and pinyon-juniper woodlands to open montane forests. Roosting occurs in mines, caves, abandoned buildings, rock cliffs, and occasionally tree cavities. Foraging occurs well after dark over water, along margins of vegetation, and over sagebrush.	Low. The species is present in Duchesne and Uintah Counties. In the study area, one individual was collected at the Ouray National Wildlife Refuge in 1980. Roosting habitat could occur in areas where rock cliffs and caves are present.
White-tailed prairie dog *Cynomys leucurus*	WSC	Inhabits grasslands, plateaus, plains, and desert shrub habitats. White-tailed prairie dogs form colonies or "towns," and spend much of their time in underground burrows and hibernating during the winter. Generally found at altitudes ranging between 5,000 and 10,000 feet in desert grasslands and shrub grasslands.	Moderate. Suitable habitat is present in the study area. No colony surveys were conducted.
Reptiles and Amphibians			
Northern leopard frog *Rana pipiens*	FPE	Inhabits a variety of aquatic habitats, but may forage some distance from water. The species takes refuge in damp burrows or underwater during winter. The species is fairly common and widespread throughout Utah, but populations may be declining.	None. Habitat is not available in the study area.
Red corn snake *Elaphe guttata*	WSC	Habitat includes pine woodlands, brushy fields, open hardwood forests, mangrove thickets, barnyards, abandoned buildings, areas near springs, old trash dumps, and caves.	None. Habitat is not available in the study area.
Smooth green snake *Liochlorophis vernalis*	WSC	Habitats include meadows, grassy marshes, moist grassy fields at forest edges, mountain shrublands, stream borders, bogs, open moist woodland, abandoned farmlands, and vacant lots.	None. Habitat is not available in the study area.

Notes:

Federally listed species:

FE = Federally listed as endangered

FPE = Species petitioned for listing as threatened or endangered

FPR = Species proposed for listing as threatened or endangered

FT = Federally listed as threatened

FC = Candidate species for federal listing

Utah state sensitive species:

CAS = State Conservation Agreement Species

WSC = Wildlife Species of Concern

PIF = Partners in Flight species of concern, Colorado Plateau, Utah Mountains, potentially within the VFO

‡ Occurrence: None = suitable and/or potential habitat for this species is unknown in study area; Low = some suitable and/or potential habitat for this species, but populations unknown near study area; Moderate = substantial suitable and/or potential habitat for this species or known populations near, but unknown in study area; High = suitable and/or potential habitat present and populations known in study area or immediate proximity.

Attachment D.

UDWR Sensitive Species Information Letter

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Wildlife Resources
GREGORY SHEEHAN
Division Director

February 12, 2015

Jared Bigler
SWCA Environmental Consultants
2028 West 500 North
Vernal, Utah 84078

Subject: Species of Concern Near the Brennan Bottoms Disposal Facility, Uintah County, Utah

Dear Jared Bigler:

I am writing in response to your email dated January 28, 2015 regarding information on species of special concern proximal to the proposed Brennan Bottoms Disposal Facility located in Section 19 of Township 6 South, Range 21 East, SLB&M in Uintah County, Utah.

The Utah Division of Wildlife Resources (UDWR) does not have records of occurrence for any threatened, endangered, or sensitive species within the project area noted above. However, within a two-mile radius there are recent records of occurrence for bluehead sucker, bonytail, Colorado pikeminnow, ferruginous hawk, razorback sucker, white-tailed prairie-dog and yellow-billed cuckoo. All of the aforementioned species are included on the *Utah Sensitive Species List*.

The information provided in this letter is based on data existing in the Utah Division of Wildlife Resources' central database at the time of the request. It should not be regarded as a final statement on the occurrence of any species on or near the designated site, nor should it be considered a substitute for on-the-ground biological surveys. Moreover, because the Utah Division of Wildlife Resources' central database is continually updated, and because data requests are evaluated for the specific type of proposed action, any given response is only appropriate for its respective request.

In addition to the information you requested, other significant wildlife values might also be present on the designated site. Please contact UDWR's northeastern regional habitat manager, Miles Hanberg, at (435) 247-1557 if you have any questions.

Please contact our office at (801) 538-4759 if you require further assistance.

Sincerely,

Sarah Lindsey

Sarah Lindsey
Information Manager
Utah Natural Heritage Program

cc: Miles Hanberg

1594 West North Temple, Suite 2110, PO Box 146301, Salt Lake City, UT 84114-6301
telephone (801) 538-4700 • facsimile (801) 538-4709 • TTY (801) 538-7458 • *www.wildlife.utah.gov*

UTAH DNR WILDLIFE